

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Charles Figer on January 15, 2009.

The application has been amended as follows:

Amendment to the specification:

[00039] A machine-readable medium is understood to include any mechanism for storing or transmitting information in a form readable by a machine (e.g., a computer). For example, a machine-readable medium includes read only memory (ROM); random access memory (RAM); magnetic disk storage media; optical storage media; or flash memory devices; ~~electrical, optical, acoustical or other form of propagated signals (e.g., carrier waves, infrared signals, digital signals, etc.); etc.~~

Claim Amendments:

1. (Currently Amended) A method, comprising:
designing a TEQ (Time EQualizer) in a DMT (Discrete Multi-Tone) system to improve throughput performance by:

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selecting in the DMT system an eigenvector with a subspace-based design method; and

computing in the DMT system TEQ filter coefficients with the eigenvector; and

reducing in the DMT system the number and severity of notches that the TEQ introduces in a transfer function of a shortened main channel in the DMT system,

wherein the eigenvector used to compute the TEQ filter coefficients does not correspond to a maximum eigenvalue,

wherein selecting the eigenvector comprises maximizing an achievable bitrate over a subspace of eigenvectors, and

wherein the subspace of eigenvectors has a basis of eigenvectors corresponding to a set of eigenvalues that are comparable in magnitude to the maximum eigenvalue.

5-7. (Canceled)

15. (Currently Amended) A system, comprising:

means for designing a TEQ (Time Equalizer) in a DMT (Discrete Multi-Tone) system to improve throughput performance including:

means for selecting an eigenvector with a subspace-based design method; and

means for computing TEQ filter coefficients with the eigenvector; and

means for reducing the number and severity of notches that the TEQ introduces in a transfer function of a shortened main channel in the DMT system,

wherein the eigenvector used to compute the TEQ filter coefficients does not correspond

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to a maximum eigenvalue,

wherein means for selecting the eigenvector comprises means for maximizing an achievable bitrate over a subspace of eigenvectors, and

wherein the subspace of eigenvectors has a basis of eigenvectors corresponding to a set of eigenvalues that are comparable in magnitude to the maximum eigenvalue.

19-21. (Canceled)

29. (Currently Amended) A computer readable medium, having stored thereon computerreadable instructions, which when executed in a computer system, cause the computer system to:

design a TEQ (Time Equalizer) in a DMT (Discrete Multi-Tone) system to improve throughput performance by:

selecting an eigenvector with a subspace-based design computer readable medium by maximizing an achievable bitrate over a subspace of eigenvectors; and

computing TEQ filter coefficients with the eigenvector; and

reduce the number and severity of notches that the TEQ introduces in a transfer function of a shortened main channel in the DMT system,

wherein the eigenvector used to compute the TEQ filter coefficients does not correspond to a maximum eigenvalue, and

wherein the subspace of eigenvectors has a basis of eigenvectors corresponding to a set of eigenvalues that is comparable in magnitude to the maximum eigenvalue.

33-35. (Canceled)

43. (Currently Amended) A method of processing a received DMT symbol in a DMT system that is preceded by a prefix and does not include a suffix, the method comprising:

- extracting in the DMT system a last portion of a prefix symbol;
- shaping in the DMT system a prefix with a prefix window to create a shaped prefix;
- shaping in the DMT system a DMT symbol that does not include a suffix with a DMT window to create a shaped DMT symbol; and
- combining in the DMT system the shaped DMT symbol and the shaped prefix,

wherein the combined shaped DMT symbol and shaped prefix generate a full rectangle symbol with a length less than or equal to a boundary prefix length.

44. (Currently Amended) A method of processing a received DMT symbol in a DMT system that has not been windowed for transmission, the method comprising:

- extracting in the DMT system a last portion of a prefix symbol;
- shaping in the DMT system a prefix with a prefix window to create a shaped prefix;
- shaping in the DMT system a DMT symbol that has not been windowed for transmission with a DMT window to create a shaped DMT symbol; and
- combining in the DMT system the shaped DMT symbol and the shaped prefix,

wherein the combined shaped DMT symbol and shaped prefix generate a full rectangle symbol with a length less than or equal to a boundary prefix length.

Conclusion

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
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Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Sai-Ming Chan whose telephone number is (571) 270-1769. The Examiner can normally be reached on Monday-Thursday from 8:00 am to 5:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

/Sai-Ming Chan/

Examiner, Art Unit 2416

January 18, 2009

/Brenda Pham/

Primary Examiner, Art Unit 2416